

# Tertiary Avian Localities of the United Kingdom

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**Abstract:** Overall, at least 24 localities of the Tertiary birds are known from the United Kingdom. Most of them are of Eocene to Oligocene age.

**Key - words:** Aves, Tertiary, Eocene, Oligocene, Pliocene, United Kingdom.

## INTRODUCTION

The United Kingdom has a long history of the Tertiary palaeornithology. First remains of Tertiary birds from this territory were collected before 1793 by Sir John Hunter (Owen 1840, 1846). First publication on them appeared in the 1820s (Koenig 1825). Since the 1840s, the work was rather intense (Owen 1840, 1841, 1846, 1870, 1873, 1878, 1880, Bowerbank 1854, Seeley 1866, D. S. Martin 1874, Newton 1882a, b, 1885a, b, 1886a, b, 1887, 1889, Lydekker 1891a, b, Andrews 1899), but it ceased at the end of the 19th century. Thereafter, a gap occurred in the British Tertiary palaeornithology until the 1970s, when Colin Harrison and Cyril Walker started to publish a series of papers on the British Paleogene birds (Harrison and Walker 1971, 1972, 1975, 1976a, b, c, 1977, 1978, 1979a, b, c, Harrison 1971, 1976, 1979a, b, c, 1980, 1982a, b, c, 1983, 1984a, b, c, 1985, 1986). The latter authors described a number of new avian taxa, most of which are believed to be in need of revision (Steadman 1981, Olson 1981, Houde 1988, Olson and Daniels 1994, Mlíkovský, unpub. results). For a previous review of the British Paleogene birds see Hooker *et al.* (1980).

The stratigraphy applied here follows Schmidt-Kittler (1987) for the Paleogene, and Mein (1990) for the Neogene, respectively. Museum acronyms are as follows:

- BMNH: Natural History Museum (formerly British Museum (Natural History)), London, United Kingdom
- DH: M.C.S. Daniels (private collection), Holland-on-Sea, Essex, United Kingdom
- IGS: Institute of Geological Sciences (formerly Geological Survey Museum), London, United Kingdom
- IM: Ipswich Museum, Ipswich, Sussex, United Kingdom
- MM: Maidstone Museum, Maidstone, Kent, United Kingdom
- SMC: Sedgwick Museum (formerly Woodwardian Museum), Cambridge, United Kingdom.

#### LIST OF LOCALITIES

##### (1) CROYDON

**Location:** Surrey, England. Early Eocene, MN 7 (Russell 1988).

**Avifauna:** Bones of the Gastornithidae (*Gastornis*) (Newton 1885a ,b, 1886a, b, 1889, Harrison and Walker 1977, L. D. Martin 1992). Deposited in BMNH and IGS. Type locality of *Gastornis klaasseni* Newton 1886a.

##### (2) ABBEY WOOD

**Location:** Kent, England. Early Eocene, MP 8-9 (Schmidt-Kittler 1987, Russell 1988).

**Avifauna:** Premaxilla, attributed to the Marinavidae (*Marinavis*) (Harrison and Walker 1977). Deposited in BMNH. Type locality of *Marinavis longirostris* Harrison and Walker 1977.

##### (3) ISLE OF SHEPPEY

**Location:** Kent, England. Early Eocene, MP 8-9 (cf. Cooper 1976, Russell 1988). It is unknown from which part(s) of the isle were the bones excavated. The types of *Argillipes aurorum* and *Pediorallus hookeri*, and referred specimens of *Precursor parvus* and *Primapus lacki* were said to come from the WARDEN POINT at the island (Harrison and Walker 1977, Harrison 1984c).

**Avifauna:** Bones of mainly marine and shore birds, attributed to the Lithornithidae (*Lithornis*), Hydrobatidae (*Primodroma*), Procellariidae (*Neptuniavis*), Odontopterygidae (*Odontopteryx*, *Macrodonopteryx*), Pseudodontornithidae (*Pseudodontornis*), Dasornithidae (*Dasornis*, *Argillornis*), Prophaethontidae (*Prophaethon*), Threskiornithidae (*Proplegadis*), Accipitridae (*Parvigyps*), Phasianidae (*Argillipes*, *Percolinus*), ?Rallidae (*Pediorallus*), ?Glareolidae (*Precursor*), Musophagidae (*Promusophaga*),



**Fig. 1.** Tertiary avian localities of the United Kingdom. The numbering of the localities corresponds with that in the text. Scale bar = 200 km.

and Halcyornithidae (*Halcyornis*) (Koenig 1825, Owen 1840, 1841, 1846, 1870, 1873, 1878, 1880, Bowerbank 1854, Seeley 1866, D. S. Martin 1874, Lydekker 1891a, Andrews 1899, Harrison and Walker 1971, 1972, 1975a, b, 1976b, c, 1977, Cracraft and Rich 1972, Harrison 1982a, 1984a, b, c, 1986, Houde 1988). Deposited in BMNH (incl. types) and MM. Type locality of *Lithornis vulturinus* Owen 1840, *Lithornis emuinus* Bowerbank 1854, *Primodroma bournei* Harrison and Walker 1977, *Neptuniavis miranda* Harrison and Walker 1977, *Neptuniavis minor* Harrison and Walker 1977, *Odontopteryx toliapicus* Owen 1873, *Macrodonopteryx oweni* Harrison and Walker 1976b, *Pseudodontornis longidentata* Harrison and Walker 1976b, *Dasornis londinensis* Owen 1870, *Prophaeton shrubsolei* Andrews 1899, *Proplegadis fisheri* Harrison and Walker 1971, *Precursor magnus* Harrison and Walker 1977, *Precursor litorinus* Harrison and Walker 1977, *Stintonornis mitchelli* Harrison 1984a, *Parvirallus bassetti* Harrison 1984a, *Parvirallus medius* Harrison 1984a, *Parvirallus gassoni* Harrison 1984c, *Pediorallus hookeri* Harrison 1984b, *Parvigyps praecox* Harrison and Walker 1977, *Argillipes aurorum* Harrison and Walker 1977, *Argillipes paralectoris* Harrison and Walker 1977, *Percolinus venablesi* Harrison and Walker 1977, *Promusophaga magnifica* Harrison and Walker 1977, and *Larus toliapicus* Koenig 1825.

#### (4) BOGNOR REGIS

**Location:** Sussex, England. Early Eocene, MP 8-9 (cf. Schmidt-Kittler 1987). Different layers were discerned at this locality, but they were not given in the palaeontological literature. Harrison and Walker (1977) allocated most of the remains to the "Fish Tooth Beds", and the remains of *Precursor parvus* to the "Lower Fish Tooth Bed".

**Avifauna:** Bones, attributed to the ?Glarcolidae (*Percolinus*), Columbidae (*Microena*), Cuculidae (*Procuculus*), Aegialornithidae (*Primapus*), and Primoscenidae (*Primoscens*) (Harrison and Walker 1975a, b, 1977, Olson and Feduccia 1979, Harrison 1982a, 1984a). Deposited in BMNH. Type locality of *Precursor parvus* Harrison and Walker 1977, *Microena goodwini* Harrison and Walker 1977, *Procuculus minutus* Harrison and Walker 1977, *Primapus lacki* Harrison and Walker 1975a, and *Primoscens minutus* Harrison and Walker 1977.

#### (5) PRIMROSE HILL

**Location:** London City, England. Early Eocene, MP 7-10 (cf. Harrison and Walker 1977, 1978).

**Avifauna:** Fragmentary sternum, attributed to a ?heron, *Proherodius* (Owen 1846, Lydekker 1891a, Harrison and Walker 1977, 1978, Harrison 1979a). Deposited in BMNH. Type locality of *Proherodius oweni* Lydekker 1891a.

## (6) BURNHAM-ON-CROUCH

**Location:** Essex, England. Early Eocene, MP 8-9 (cf. Harrison and Walker 1977, Schmidt-Kittler 1987).

**Avifauna:** Bones, attributed to the Phasianidae (*Coturnipes*), and Cuculidae (*Parvicuculus*) (Harrison and Walker 1977, Olson and Feduccia 1979, Harrison 1982a). Deposited in BMNH. Type locality of *Coturnipes cooperi* Harrison and Walker 1977, and *Parvicuculus minor* Harrison and Walker 1977.

## (7) HIGH ONGAR

**Location:** Essex, England. Early Eocene, MP 7-10 (cf. Harrison and Walker 1977).

**Avifauna:** Partial tarsometatarsus of a lithornithid, *Lithornis* (Houde 1988), originally attributed to a rail (Harrison and Walker 1977, but see Harrison 1984b). Deposited in BMNH. Type locality of *Pediorallus barbarae* Harrison and Walker 1977.

## (8) SAINT JAMES PARK (St James Park)

**Location:** London City, England. Early Eocene, MP 8-9 (cf. Harrison and Walker 1977, Schmidt-Kittler 1987).

**Avifauna:** Tarsometatarsus, attributed to a ?rail, *Pediorallus* (Harrison and Walker 1977, Harrison 1984b). Deposited in IGS.

## (9) GRANGE FARM

**Location:** at South Ockendon, Essex, England. Early Eocene, MP 7-10 (cf. Harrison 1980).

**Avifauna:** Bones of small birds, including an owl, *Eostrix* (George and Vincent 1978, Harrison 1980). Deposited in BMNH. Type locality of *Eostrix vincenti* Harrison 1980.

## (10) HERNE BAY

**Location:** Kent, England. Early Eocene, MP 8-9 (Schmidt-Kittler 1987).

**Avifauna:** Bones, attributed to the Pseudodontornithidae (*Pseudodontornis*), and ?Rallidae (*Pediorallus*) (Harrison and Walker 1977, Harrison 1984b, 1985). Deposited in BMNH. Type locality of *Pseudodontornis tenuirostris* Harrison 1985.

## (11) WALTON-ON-THE-NAZE

**Location:** Essex, England. Early Eocene, MP 8? (cf. Russell 1988, Olson and Daniels 1994).

**Avifauna:** Very rich avifauna (Daniels 1979, 1987, 1988, 1989, 1990, 1993, 1994, Harrison 1982b, c, 1983, 1984b, c, Houde 1988, Olson and Daniels 1994). Daniels

(1994) listed the following taxa as "reasonably" identified: Lithornithiformes, Gaviidae, Procellariidae, Threskiornithidae, Anhimidae, Anatidae, Falconidae, Megapodiidae, Heliornithidae, Phorusrhacidae, Burhinidae, Alcidae, Psittaciformes, Strigidae, Steatornithidae, Archaeotrogonidae, Apodidae, Hemiprocnidae, Aegialornithidae, Trogonidae, Coliiformes, Sandcoleiformes, Coraciidae, Momotidae, Upupidae, Piciformes, and Passeriformes. For the Lithornithidae see also Houde (1988). Deposited in BMNH (incl. all types) and DH. Type locality of *Parvulivenator watteli* Harrison 1982b, *Pediorallus nasi* Harrison 1984b, *Eocypselus vincenti* Harrison 1984c, and *Palaeopsittacus georgei* Harrison 1982c).

#### (12) LEE-ON-SOLENT (Gosport)

**Location:** Hampshire, England. Middle Eocene, MP 11-13 (cf. Kemp *et al.* 1979, Harrison and Walker 1979a, Russell 1988).

**Avifauna:** Bones, attributed to the Accipitridae (*Milvoides*), Phasianidae (*Percolinus*), and Rallidae (*Parvirallus*, *Latipons*) (Harrison and Walker 1979a). Deposited in BMNH. Type locality of *Milvoides kemp*i Harrison and Walker 1979a, *Percolinus proudlocki* Harrison and Walker 1979a, *Latipons gardneri* Harrison and Walker 1979a, *Latipons robinsoni* Harrison and Walker 1979a, and *Parvicuculus gracilis* Harrison and Walker 1979a.

#### (-) KEMPSPORT

**Note:** Olson (1985: 121) remarked that Harrison (1982) assigned "a fragmentary distal end of tarsometatarsus from Medial Eocene deposits of Kempsport, Hampshire" to *Palaeopsittacus georgei*. No such locality is mentioned in Harrison (1982). He said there, that the fragmentary tarsometatarsus of *Palaeopsittacus* came from Gosport and that the remains were first reported by Kemp *et al.* (1979). Obviously, Kempsport is a misprint for Gosport.

#### (13) YATELEY

**Location:** Hampshire, England. Middle Eocene, MP 11-13 (cf. Harrison and Walker 1979a).

**Avifauna:** Tarsometatarsus, attributed to the Phasianidae (*Litoripes*) (Harrison and Walker 1979a). Deposited in BMNH. Type locality of *Litoripes medius* Harrison and Walker 1979a.

#### (14) BARTON

**Location:** Hampshire, England. Late Eocene, MP 14-16 (cf. Harrison and Walker 1976a).

**Avifauna:** Partial tibiotarsus, attributed to the Scolopacidae (*Villettus*) (Harrison and Walker 1976a). Deposited in IGS. Type locality of *Villettus waltoni* Harrison and Walker 1976a.

### (15) HIGHCLIFFE

**Location:** Hampshire, England. Late Eocene, MP 14-16 (cf. Harrison and Walker 1976a).

**Avifauna:** Partial tibiotarsus, attributed to the Scolopacidae (*Villettus*) (Harrison and Walker 1976a). Deposited in BMNH. Type locality of *Villettus grandis* Harrison and Walker 1976a.

### (16) HORDLE (Hordwell)

**Location:** Hampshire, England. Late Eocene, MP 17 (cf. Gad *et al.* 1990).

**Avifauna:** Bones, attributed to the Gaviidae (*Colymboides*), Phalacrocoracidae (*Piscator*), Threskiornithidae (*Actiornis*), Presbyornithidae (*Headonornis*), Anatidae (*Palaeopapia*), Cathartidae (indet.), Accipitridae (?*Aquilavus*, *Palaeocircus*), Gruidae (*Palaeogrus*, *Geranopsis*), Rallidae (*Ibidopsis*), Recurvirostridae (*Tenuicrus*), Burhinidae (*Petropluvialis*) (Lydekker 1891a, Storer 1956, Cracraft 1973, Olson 1977, 1981, Harrison 1971, 1976, 1986, Harrison and Walker 1976a, 1977). Deposited in IGS (incl. type of *Colymboides anglicus*), SMC (incl. type of *Gigantibis incognita*), and BMNH (incl. all other types). Type locality of *Colymboides anglicus* Lydekker 1891a, *Piscator tenuirostris* Harrison and Walker 1976a, *Elornis anglicus* Lydekker 1891a, *Gigantibis incognita* Harrison and Walker 1976a, *Howardia eous* Harrison and Walker 1976a, *Grus hordwelliensis* Lydekker 1891a, *Geranopsis hastingsiae* Lydekker 1891a, *Ibidopsis hordwelliensis* Lydekker 1891a, *Tenuirostris magnum* Harrison and Walker 1976a, *Petropluvialis simplex* Harrison and Walker 1976a, and *Macrornis tanaupes* Seeley 1886. The latter species was said to be non-avian (Harrison and Walker 1976a).

### (17) MILFORD

**Location:** Hampshire, England. Late Eocene, MP 17 (cf. Gad *et al.* 1990).

**Avifauna:** Partial humerus, attributed to the Presbyornithidae (*Agnopterus*) (Lydekker 1891a, Harrison 1971, 1986, Harrison and Walker 1976a). Deposited in BMNH. Type locality of *Agnopterus hantoniensis* Lydekker 1891a.

### (18) BURNT WOOD

**Location:** Isle of Wight, England. Early Oligocene, MP 21-24 (cf. Harrison and Walker 1979b).

**Avifauna:** Humerus, attributed to the Presbyornithidae (*Headonornis*) (Harrison and Walker 1976a, 1979b). Deposited in BMNH.

### (19) GURNARD BAY

**Location:** Isle of Wight, England. Early Oligocene, MP 21-24 (cf. Harrison and Walker 1979b).

**Avifauna:** Tarsometatarsus, attributed to a condor, *Oligocathartes* (Harrison and Walker 1979b). Deposited in BMNH.

### (20) YARMOUTH

**Location:** Isle of Wight, England. Early Oligocene, MP 21-23 (cf. Harrison and Walker 1979b, Gad *et al.* 1990).

**Avifauna:** Bones, attributed to the ?Elcutherornithidae (*Proceriavis*), Anatidae (*Palaeopapia*, *Paracygnopterus*), Cathartidae (*Oligocathartes*), Phasianidae (*Argillipes*), and Gruidae (*Geranopsis*) (Harrison and Walker 1979b). Deposited in BMNH. Type locality of *Proceriavis martini* Harrison and Walker 1979b, *Paracygnopterus scotti* Harrison and Walker 1979b, *Palaeopapia hamsteadiensis* Harrison and Walker 1979b, *Oligocathartes olsoni* Harrison and Walker 1979b, and *Argillipes magnus* Harrison and Walker 1979b.

### (21) HAMSTEAD

**Location:** Isle of Wight, England. Early Oligocene, MP 21-23 (Gad *et al.* 1990).

**Avifauna:** Bones, attributed to the ?Odontopterygidae (?*Macrodontopteryx*), Presbyornithidae (*Haedonornis*), Anatidae (*Palaeopapia*), Phasianidae (*Argillipes*), and Gruidae (*Geranopsis*) (Harrison and Walker 1979b). Deposited in BMNH and SMC.

### (22) FOXHALL

**Location:** Red Crag (see Stuart 1974), Suffolk, England. Late Pliocene, MN 16-17 (cf. Stuart 1974, Funnell and West 1977, Nilsson 1983).

**Avifauna:** Two bones of the Diomedidae (*Diomedea*) (Lydekker 1886, 1891a, b, Newton 1891). Deposited in IM. Type locality of *Diomedea anglica* Lydekker 1891a.

### (23) ALDEBY

**Location:** Chillesford Crag, Norfolk, England. Late Pliocene, MN 17 (cf. Stuart 1974, Funnell and West 1977, Nilsson 1983, Horáček and Ložek 1988).

**Avifauna:** Partial humerus of an auk, *Uria* (Newton 1882a, b, 1887, Lydecker 1891b, Harrison 1979c). Its whereabouts is unknown.



## (24) CHILLESFORD

**Location:** Chillesford Crag, Suffolk, England. Late Pliocene, MN 17 (cf. Stuart 1974, Funnell and West 1977, Nilsson 1983, Horáček and Ložek 1988).

**Avifauna:** Partial radius of an auk, *Uria* (Harrison 1979c). Deposited in BMNH.

### DISCUSSION

Most of the Tertiary birds in the United Kingdom come from the Eocene and Oligocene. The deposits are mostly of marine origin, but some localities yielded also land and/or arboreal birds. The overall avifauna is rich, but needs revision and thorough comparison with the Paleogene birds from the localities in continental Europe and North America.

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